



## Tenac® 4010

Asahi Kasei Corporation - Acetal (POM) Homopolymer

Tuesday, July 15, 2008

### General Information

#### General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East	• Asia Pacific	• Europe
Features	• General Purpose • High Impact Resistance	• Homopolymer • Medium Viscosity	
Uses	• Electrical/Electronic Applications • General Purpose	• Household Goods • Industrial Applications	
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

### ASTM and ISO Properties <sup>1</sup>

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Specific Gravity	1.42	1.42	ASTM D792
Density	1.42 g/cm <sup>3</sup>	1.42 g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR)	10 g/10 min	10 g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	10 g/10 min	10 g/10 min	ISO 1133
Molding Shrinkage (Flow)	0.018 to 0.022 in/in	1.8 to 2.2 %	ASTM D955
Molding Shrinkage			ISO 294-4
Across Flow	1.8 to 2.2 %	1.8 to 2.2 %	
Flow	1.8 to 2.2 %	1.8 to 2.2 %	
Water Absorption (24 hr)	0.20 %	0.20 %	ASTM D570
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	464000 psi	3200 MPa	ISO 527-1, -2
Tensile Strength	10000 psi	69.0 MPa	ASTM D638
Tensile Stress (Yield)	10400 psi	72.0 MPa	ISO 527-1, -2
Tensile Elongation (Break)	60 %	60 %	ASTM D638
Tensile Strain (Break)	50 %	50 %	ISO 527-1, -2
Flexural Modulus	426000 psi	2940 MPa	ASTM D790
Flexural Strength	14900 psi	103 MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles)	13.0 mg	13.0 mg	ASTM D1044
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
73 °F (23 °C)	4.76 ft-lb/in <sup>2</sup>	10.00 kJ/m <sup>2</sup>	
Notched Izod Impact	1.46 ft-lb/in	78.0 J/m	ASTM D256
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
M-Scale	94	94	
R-Scale	120	120	

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<b>Thermal</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Deflection Temperature Under Load 66 psi (0.45 MPa), Unannealed	342 °F	172 °C	ASTM D648
Heat Deflection Temperature 66 psi (0.45 MPa), Unannealed	329 °F	165 °C	ISO 75B-1, -2
Deflection Temperature Under Load 264 psi (1.8 MPa), Unannealed	277 °F	136 °C	ASTM D648
Heat Deflection Temperature 264 psi (1.8 MPa), Unannealed	212 °F	100 °C	ISO 75A-1, -2
CLTE, Flow (TMA)	0.000056 in/in/°F	0.00010 cm/cm/°C	ASTM E831
<b>Flammability</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Flame Rating - UL	HB	HB	UL 94

**Additional Properties**

The values listed as Mold Shrinkage, were tested in accordance with Asahi Kasei method.

<b>Processing Information</b>			
<b>Injection</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	
Drying Temperature	176 to 194 °F	80.0 to 90.0 °C	
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr	
Processing (Melt) Temp	374 to 410 °F	190 to 210 °C	
Mold Temperature	122 °F	50.0 °C	
<b>Extrusion</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	
Cylinder Zone 1 Temp.	374 °F	190 °C	
Cylinder Zone 2 Temp.	392 °F	200 °C	
Cylinder Zone 3 Temp.	410 °F	210 °C	
Melt Temperature	374 to 410 °F	190 to 210 °C	

**Notes**

<sup>1</sup> Typical properties: these are not to be construed as specifications.